1. (original):An oxidation process of aromatic hydrocarbons, such as ortho-, meta- and para-xylene, pseudocumene, mesitylene and their homologous products, to produce the corresponding acids and anhydrides, such as orthophthalic acid, isophthalic acid and terephthalic acid, trimellitic anhydride, trimesic acid, respectively, and their homologous products, by catalytic oxidation with acetic acid as reaction medium, characterized in that the water which forms the by-product of the oxidation reaction is separated from the acetic acid, containing it in the effluent produced by the reaction, by means of azeotropic/extractive distillation, using as extraction solvent, modifier of the relative volatility of said components, the same aromatic hydrocarbon which is fed to the oxidation reaction, obtaining acetic acid as bottom distillation stream, to be recycled to the reaction together with the extraction solvent.

2. (original):The oxidation process of aromatic hydrocarbons according to claim 1, characterized in that the hydrocarbon which is fed to the separation section of water from acetic acid forms a part of the overall hydrocarbon fed to the oxidation plant.

3. (original):The oxidation process of aromatic hydrocarbons according to claim 2, characterized in that the hydrocarbon which is fed to the separation section of water from acetic acid forms 40-100% of the overall hydrocarbon fed to the oxidation plant.

4. (original): The oxidation process of aromatic hydrocarbons according to claim 1, characterized in that the reaction water is separated as head product from the acetic acid in a column (D), in which the hydrocarbon to be fed to the oxidation reaction is introduced into its upper part as azeotropic/extraction solvent, through line (9), obtaining from the head of the column (D), through

line (3), vapours of the water/hydrocarbon azeotropic mixture of which, once condensed in the condenser (C) and demixed in the vessel (V), the organic phase is totally refluxed to the column (D) with line (4), the heavier aqueous phase is discharged with line (5), the stream of the bottom of the column (D) discharged with line (2) containing acetic acid together with the azeotropic/extraction solvent fed to the upper part of the column (D).

5. (original):The oxidation process of aromatic hydrocarbons according to claim 4, characterized in that the aqueous phase of line (5) is partially refluxed to the column (D) with line (7).

6. (original):The oxidation process of aromatic hydrocarbons according to claim 4, characterized in that the hydrocarbon stream refluxed to the head of the column (D) is fed either totally or partially--to a few trays lower than the feeding of the fresh hydrocarbon of line (9), through line (4').

7. (original):The oxidation process of aromatic hydrocarbons according to claim 5, characterized in that the aqueous stream refluxed to the column (D) is distributed at various heights.

8. (original):The oxidation process of aromatic hydrocarbons according to claim 4, characterized in that the hydrocarbon forming the azeotropic/extraction solvent is fed to the column (D) through line (8), together with the refluxed stream of line (4), converging therein.